

Attachment 9: Revised Qualitative Usage Analysis Report

EPA QUA	Endosulfan	Case #: 0014	AI #: 79401
Analyst:	Steven M. Nako	April 22, 1999	Updated by: David Donaldson September 10, 2000

Endosulfan Usage: Food Crops

Based on available pesticide survey usage data for the years 1990 through 1999, total average annual use of endosulfan is estimated at approximately 1.38 million pounds of active ingredient (lbs ai). Endosulfan is registered for use on numerous fruits, nuts and vegetable crops. Typical application rates for these food crops range from 0.5 lbs ai/acre to 1.0 lbs ai/acre, with 1-2 applications made per season. In terms of pounds applied, cotton, tomatoes, potatoes, and apples are major use sites, with approximately 286,000 lbs ai, 55,000 lbs ai, 120,000 lbs ai and 110,000 lbs ai applied annually to these crops, respectively.

The accompanying table also presents 'likely average' and 'likely maximum' Percent of Crop Treated (%CT) projections, by crop. A relatively large percent of various cucurbits are treated with endosulfan (e.g, 31% of cantaloupes, 40% of squash, and 19% of honeydew melons), as are pumpkins (20%), pears (20%), strawberries (14%) and tomatoes (6%). As is often the case for many insecticide uses, the actual %CT may (depending upon the crop) fluctuate considerably from year to year due to varying pest pressures (e.g., weather related infestations), and economic factors. The likely maximum %CT projections are designed to account for these factors, as well as for uncertainty within and across the various survey estimates.

Endosulfan Usage: Non-food Crops/Sites

Endosulfan is also applied to various ornamental plants and shrubs in horticultural nurseries, and ornamentals. As much as 80,000 lbs ai of endosulfan are believed to be applied by horticultural nurseries in greenhouses; mainly to control for aphids, whiteflies and thrips (USDA, NAPIAP Report, 1-CA-96). Residential use of endosulfan is believed to be negligible. According to the 1993 Certified/Commercial Pesticide Applicator Survey, an estimated 75 lbs ai of endosulfan were also applied to residential sites by for-hire applicators.

Site	Acres (000) Grown	Acres (000) Treated		% of Crop Treated		Lb ai (000) applied		Average Application Rates			States of Most Usage
		Wtd Avg	Est Max	Wtd Avg	Est Ma x	Wtd Avg	Est Max	lb ai / A / yr	# appl / yr	lb ai / A / appl	% of total lb ai used on this site
Blueberries	59	1	3	2%	6%	1	3	0.79	1.5	0.52	NC GA NJ 100%
Strawberries	51	7	11	14%	21%	9	14	1.27	1.38	0.92	OR MI CA WI NY 76%
Grapes	825	12	47	1%	6%	17	102	1.44	1.39	1.03	CA OR 82%
Grapefruit	194	2	10	1%	5%	3	14	1.5	2	0.75	FL 100%
Oranges	867	3	10	0%	1%	4	14	1.35	1.71	0.79	FL 86%
Pineapple (flowering ac.)	12	0	1	2%	6%	1	2	3	2	1.5	HI 100%
Citrus, Other /1	51	0	<1	0%	<1%	0	1	11.96	2.99	4	FL 100%
Apples	572	72	114	13%	20%	110	215	1.53	1.42	1.08	WA NY MI MN ID NC 71%

Site	Acres (000) Grown	Acres (000) Treated		% of Crop Treated		Lb ai (000) applied		Average Application Rates			States of Most Usage
		Wtd Avg	Est Max	Wtd Avg	Est Max	Wtd Avg	Est Max	lb ai / A / yr	# appl / yr	lb ai / A / appl	% of total lb ai used on this site
Pears	78	15	37	20%	48%	35	85	2.26	1.24	1.82	WA OR CA 83%
Apricots/Nectarines	57	1	2	2%	4%	2	3	1.71	2.03	0.84	FL NJ WA CO PA AL 82%
Cherries, Total	95	2	6	3%	7%	5	12	2.11	1.18	1.79	UT MI WA CA NY 82%
Cherries, Sweet	47	2	4	5%	8%	5	9	2.22	1.2	1.85	WA MI 90%
Cherries, Tart	49	0	2	1%	5%	0	3	1.35	1.02	1.33	MI 100%
Peaches	212	16	35	7%	17%	29	91	1.85	2.63	0.7	GA MI NJ AR FL MS 63%
Plums & Prunes	164	5	12	3%	7%	8	21	1.81	1	1.81	WA OR CA
Plums	64	3	8	4%	12%	5	14	1.81	1	1.81	WA OR CA 86%
Prunes	100	2	4	2%	4%	4	7	1.81	1	1.81	WA OR CA 86%
Almonds	429	0	<1	0%	<1%	0	1	2.41	1.01	2.38	CA 100%
Hazelnuts (Filberts)	27	2	5	7%	18%	2	5	1	1	1	OR WA 100%
Macadamia Nuts	20	2	6	7%	30%	-	-	-	-	-	HI 100%
Pecans	488	51	88	11%	18%	59	138	1.15	1.86	0.62	GA OK MS 81%
Walnuts	205	1	2	0%	1%	1	3	1.41	1.58	0.9	CA 95%
Eggplant	4	2	3	41%	83%	3	6	1.91	3.63	0.53	FL NJ 89%
Peppers, Total	78	10	13	12%	17%	14	32	1.55	2.45	0.63	FL TX CA NC
Peppers, Bell	55	9	10	16%	19%	14	30	1.59	2.59	0.61	FL TX CA NC
Peppers, Hot	23	1	3	4%	12%	1	2	0.80	1.00	0.80	CA 100%
Tomatoes, Total	465	29	53	6%	11%	55	96	1.90	2.70	0.70	FL MI NJ NC GA
Tomatoes, Fresh	136	24	40	18%	29%	50	83	2.00	3.00	0.69	FL MI NJ NC GA 95%
Tomatoes, Proc.	329	5	13	2%	4%	5	13	1.00	1.20	0.80	MI NJ 100%
Broccoli	114	15	30	13%	26%	16	32	1.06	1.32	0.8	AZ CA 85%
Brussels Sprouts	3	0	<1	2%	10%	0	<1	0.8	1	0.8	CA 100%
Cabbage, Total	92	13	25	14%	27%	18	49	1.33	2.06	0.65	FL TX NY
Cabbage, Fresh	86	12	23	14%	27%	17	47	1.38	2.09	0.66	FL TX 93%
Cabbage, Proc.	6	1	2	16%	32%	1	2	0.89	1.69	0.53	NY 100%
Cauliflower	58	5	19	9%	32%	4	15	0.78	1.18	0.66	CA AZ FL 86%
Collards	11	1	2	6%	17%	1	4	2	1	2	CA FL NJ 95%

Site	Acres (000) Grown	Acres (000) Treated		% of Crop Treated		Lb ai (000) applied		Average Application Rates			States of Most Usage
		Wtd Avg	Est Max	Wtd Avg	Est Max	Wtd Avg	Est Max	lb ai / A / yr	# appl / yr	lb ai / A / appl	% of total lb ai used on this site
Lettuce	324	46	100	14%	31%	58	143	1.27	1.76	0.72	AZ CA 85%
Spinach, Fresh	19	1	2	4%	11%	1	1	0.64	1	0.64	TX CO AZ 83%
Celery	37	2	4	6%	11%	2	4	0.97	1.55	0.62	MI CA 88%
Artichokes	13	0	1	2%	6%	0	0	0.37	1	0.37	CA 100%
Mustard Greens /2	13	1	2	6%	17%	-	-	-	-	-	-
Watercress /2	1	0	<1	0%	<1%	-	-	-	-	-	-
Other Leafy Vegetables /2	20	0	1	<1 %	5%	-	-	-	-	-	-
Garlic /2	36	0	<1	0%	<1%	-	-	-	-	-	-
Cucumbers	172	15	26	8%	15%	27	47	1.82	2.03	0.9	FL GA TX MI
Cucumbers, Fresh	55	10	15	17%	27%	22	33	2.26	2.42	0.93	GA FL MI 87%
Cucumbers, Proc.	117	5	10	4%	9%	5	11	1.07	1.29	0.83	FL TX 95%
Pumpkins	36	7	13	20%	36%	11	20	1.48	1	1.48	IL VA PA NJ IN NC 69%
Squash	53	21	45	40%	84%	44	94	2.07	1	2.07	FL MI NJ CA MD 81%
Cantaloupes	113	35	64	31%	57%	39	106	1.15	1	1.15	CA AZ 90%
Melons, Honeydew	27	5	15	19%	58%	6	19	1.25	1.79	0.7	CA AZ TX 100%
Watermelons	258	32	43	12%	17%	40	56	1.26	1	1.26	TX FL OK 85%
Carrots	107	2	5	2%	5%	1	3	0.56	1	0.56	CA 97%
Sweet Potatoes	65	20	30	31%	46%	20	30	1	2	0.5	LA TX MN NJ MS CA
Roots&Tubers/2	240	10	15	4%	6%	13	20	1.3	1	1.3	-
Potatoes	1,421	144	234	10%	16%	120	187	0.83	1.31	0.63	ND WI ME CO MI ID 51%
Sweet Corn	784	3	5	0%	1%	4	7	1.4	2	0.7	CA FL MI NC 90%
Beans, Dry	1,802	2	57	0%	3%	5	163	2.87	4.64	0.62	CA 98%
Beans, Lima	35	1	2	2%	6%	-	-	-	-	-	GA 100%
Beans, Snap Total	200	3	11	2%	6%	5	17	1.5	2.5	0.6	FL GA CA WA NC
Beans, Snap Fresh	65	1	4	2%	6%	2	6	1.5	2.5	0.6	FL GA CA 84%
Beans, Snap Processed	135	2	8	2%	6%	3	11	1.5	2.5	0.6	FL GA WA NC 82%
Peas, Dry	249	0	11	0%	4%	0	10	0.94	1	0.94	TX 80%
Peas, Green	386	1	16	0%	4%	1	42	2.52	1	2.52	NJ FL 90%
Alfalfa	23,949	15	47	0%	0%	10	30	0.66	1.45	0.45	CA OK WA UT AZ 91%

Site	Acres (000) Grown	Acres (000) Treated		% of Crop Treated		Lb ai (000) applied		Average Application Rates			States of Most Usage
		Wtd Avg	Est Max	Wtd Avg	Est Max	Wtd Avg	Est Max	lb ai / A / yr	# appl / yr	lb ai / A / appl	% of total lb ai used on this site
Barley	7,505	0	2	0%	0%	0	1	0.33	1	0.33	CO 100%
Oats\Rye	6,133	0	1	0%	0%	0	0	0.6	1	0.6	AR ME 100%
Wheat, Winter	45,854	41	79	0%	0%	20	43	0.49	1.25	0.39	OK KS TX TN 83%
Field Corn	75,000	12	40	0%	0%	7	24	0.6	1	0.6	-
Soybeans	62,879	42	103	0%	0%	13	31	0.32	1	0.31	OH LA IA 83%
Sunflower	2,745	17	88	1%	3%	2	9	0.12	1	0.12	MN SD TX 92%
Safflower	235	0	20	0%	9%	-	-	-	-	-	-
Canola\Rapeseed	1,200	0	20	0%	2%	-	-	-	-	-	-
Sugar Beets	1,415	2	4	0%	0%	3	6	1.51	1.28	1.18	OH CA 88%
Sugarcane	926	0	<1	0%	<1%	-	-	-	-	-	-
Tobacco	695	54	84	8%	12%	63	97	1.17	1.36	0.86	KY GA NC TN 82%
Cotton	13,000	286	520	2%	4%	286	520	1	2.5	0.4	MS LA TX AZ 84%
Subtotal Agricultural Use	-	1,162	1,776	-	-	1,332	2,144	-	-	-	-
Non-Agricultural Sites:											
Horticultural Nurseries	-	-	-	-	-	50	80	-	-	-	-
Residential: Outdoors	-	-	-	-	-	0	1	-	-	-	-
Subtotal Non-Agric. Use	-	-	-	-	-	50	81	-	-	-	-
Total Use (1,000 Lbs AI)	-	-	-	-	-	1,382	2,225	-	-	-	-

FOOTNOTES TO ACCOMPANY ENDOSULFAN QUA TABLES,
COLUMN HEADINGS

Weighted average--the most recent years and more reliable data are weighted more heavily.

Est Max = Estimated maximum, which is estimated from available data.

Average application rates are calculated from the weighted averages.

NOTES ON TABLE DATA

Usage data primarily covers 1990 - 1999.

Calculations of the above numbers may not appear to agree because they are displayed as rounded:

to the nearest 1000 for acres treated or lb. a.i. (Therefore 0 = < 500)

to the nearest whole percentage point for % of crop treated. (Therefore 0% = < 0.5%)

0* = Available EPA sources indicate that no usage is observed in the reported data for this site (%CT=0).

A dash (-) indicates that information on this site is NOT available in EPA sources or is insufficient to generate %CT estimates.

CROP GROUPS

/1 Citrus, Other includes kumquats, limes, tangelos, and tangerines.

/2 Other Leafy Vegetables include Endives, Kale and Kohlrabi. Roots & Tubers include radish, rutabega, turnip and turnip greens.

Sources (Cal EPA, Doane-Crop Groupings) indicate little/no use on Endives, Garlic and Watercress; use on Mustard Greens similar to collards.

DATA SOURCES

Agricultural (Crop) Sites: USDA Agricultural Chemical Usage Reports, NCFAP, and various proprietary data sources, including Doane, Maritz, Mike Buckley.

Pineapple estimates from Calvin Oda, Pineapple Growers Assoc. of Hawaii, 4/21/99, memo to Nako;

Macadamia nut estimates from Alan Yamaguchi, Hawaii Macadamia Nut Assoc., 4/21/99, personal communications with Nako.

Non-Agric. (Non-Food Crop) Sites: USDA, Biological and Economic Assessment of Chlorpyrifos and Diazinon in Ornamentals and Sod Production, 11/94;

USDA, Biological and Economic Assessment of Pest Management in the United States Greenhouse and Nursery Industry, NAPIAP Report, 1-CA-96;

1993 Certified/Commercial Pesticide Applicator Survey; Kline; SRI.

To: Sherie Kinard

From: David Donaldson

Date: October 12, 2000

Subject: Request for import and percent crop treated information

Below is the information you requested regarding imports and percent of foreign crop/imports treated with endosulfan. The information is based on the most recent two years of available data, which was usually 1998 and 1999 for imports and 1996 and 1997 for percent crop treated (%ct) with endosulfan.

Below are data sources and a row by row description of cucumbers to assist you in interpreting the tables.

Cucumbers Fresh

US Production - US production is provided in metric tons (MT) along with domestic %ct with endosulfan, which are 525,810 and 3, respectively. US production is from the United States Department of agriculture National Agricultural Statistics Service (USDA/NASS) and domestic %ct is from EPA's endosulfan quantitative usage analysis (September 10, 2000).

Imports - Total imports of cucumbers is provided in MT and equals 334,050. %ct of all imports (18%) is a weighted average of the %ct of the top three importing countries. Data on imports is taken from USDA/NASS Foreign Agricultural Trade of the United States program and %ct with endosulfan is from Mike Buckley Mexico Pesticide survey and Produce Studies, which are both proprietary data sources.

Mexico - This row provides the amount of fresh cucumbers imported to the US from Mexico, the percent of total fresh cucumber imports that come from Mexico, and the percent of the Mexican fresh cucumber crop that is treated with endosulfan. Note that the percent of the Mexican fresh cucumber crop treated with endosulfan is equal to the area treated with endosulfan divided by the area grown and does not account for the possibility that a higher or lower proportion of endosulfan treated fresh cucumbers are imported from Mexico to the US. Based on the table, the US imports 310,931 MT of cucumbers from Mexico, which is 93 percent of all fresh cucumbers imported to the US. Of Mexican production, 19 percent is treated with endosulfan.

Canada - the US imports 15,774 MT of cucumbers from Canada, which is 5 percent of all fresh cucumbers imported to the US. Of all Canadian production, 8 percent is treated with endosulfan.

Honduras - the US imports 4,216 MT of cucumbers from Honduras, which is 1 percent of all fresh cucumbers imported to the US. Of all Honduras production, less than 1 percent is treated with endosulfan.

US Exports - This row provides the amount of fresh cucumbers exported from the US (23,526 MT) to various countries.

Available In US - This row provides the amount of fresh cucumbers available in the US (836,334 MT). It is equal to US production plus imports to the US from all countries minus exports.

% Available In US from Imports - This row provides the percent of all fresh cucumbers available in the US that come from all imports (40%). It is equal to the amount of fresh cucumbers imported divided by the amount of fresh cucumbers available in the US.

Note that 'NA' indicates that data is either not available in EPA data sources or is unreliable.

Beans Dry

	Average	% Treated with endosulfan
US Production (MT)	1,443,527	< 1
Imports (MT)	49,451	< 1
Canada (42%)	20,769	< 1
Mexico (20%)	9,890	< 1
India (11%)	5,439	NA
US Exports (MT)	428,675	-
Available In US (MT)	1,064,303	-
% Available In US From Imports	5	-

Blueberries

	Average	% Treated with endosulfan
US Production (MT)	73,530	2
Imports (MT)	8,734	-
US Exports (MT)	2,818	-
Available In US (MT)	79,446	-
% Available In US From Imports	11	-

Cauliflower Fresh

	Average	% Treated with endosulfan
US Production (MT)	291,118	9

Imports (MT)	11,243	63
Mexico (82%)	9,219	67
Guatemala (12%)	1,349	63
Canada (6%)	675	15
US Exports (MT)	83,382	-
Available In US (MT)	218,979	-
% Available in US From Imports	6	-

Cherries

	Average	% Treated with endosulfan
US Production (MT)	324,785	3
Imports (MT)	2,165	-
US Exports (MT)	39,801	-
Available In US (MT)	287,148	-
% Available In US From Imports	1	-

Cucumbers Fresh

	Average	% Treated with endosulfan
US Production (MT)	525,810	17
Imports (MT)	334,050	18
Mexico (93%)	310,931	19
Canada (5%)	15,774	8
Honduras (1%)	4,216	< 1
US Exports (MT)	23,526	-
Available In US (MT)	836,334	-
% Available In US From Imports	40	-

Melons

	Average	% Treated with endosulfan
US Production (MT)	3,034,519	18
Imports (MT)	880,605	17
Mexico (54%)	476,064	21
Guatemala (14%)	119,064	< 1

Costa Rica (13%)	114,207	19
US Exports (MT)	230,454	-
Available In US (MT)	3,684,670	-
% Available In US From Imports	24	-

Peas

	Average	% Treated with endosulfan
US Production (MT)	428,872	< 1
Imports (MT)	40,208	34
Canada (27%)	10,988	<1
Mexico (26%)	10,477	67
Guatemala (24%)	9,621	39
US Exports (MT)	NA	-
Available In US (MT)	469,080	-
% Available In US From Imports	9	-

Peppers Fresh

	Average	% Treated with endosulfan
US Production (MT)	677,606	12
Imports (MT)	202,773	14
Mexico (80%)	162,218	13
Canada (6%)	11,663	24
Netherlands (6%)	10,139	<1
US Exports (MT)	62,132	-
Available In US (MT)	818,247	-
% Available In US From Imports	25	-

Pineapple Canned, Fresh, Frozen, and Prepared

	Average	% Treated with endosulfan
US Production (MT)	111,766	2
Imports (MT)	567,678	27
Costa Rica (38%)	215,502	33
Philippines (21%)	118,250	17
Thailand (15%)	85,832	NA
US Exports (MT)	8,957	-
Available In US (MT)	670,487	-
% Available In US From Imports	85	-

Pineapple Juice

	Average	% Treated with endosulfan
US Production (MT)	155,130	2
Imports (MT)	576,183	17
Philippines (48%)	278,021	17
Thailand (33%)	192,848	NA
Indonesia (11%)	61,915	NA
US Exports (MT)	0	-
Available In US (MT)	731,313	-
% Available In US From Imports	79	-

Plums

	Average	% Treated with endosulfan
US Production (MT)	174,181	4
Imports (MT)	23,332	4
Chile (99%)	23,102	4
Grenada (< 1%)	95	NA
US Exports (MT)	54,988	-
Available In US (MT)	142525	-
% Available In US From Imports	16	-

Raspberries

	Average	% Treated with
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		endosulfan
US Production (MT)	43,761	< 1
Imports (MT)	5,651	-
US Exports (MT)	NA	
Available In US (MT)	49,412	-
% Available In US From Imports	11	-

Squash

	Average	% Treated with endosulfan
US Production (MT)	52,000	40
Imports (MT)	159,167	19
Mexico (98%)	155,879	19
Panama (< 1%)	1,133	NA
Canada (< 1%)	901	NA
US Exports (MT)	NA	-
Available In US (MT)	211,167	-
% Available In US From Imports	75	-

Sweet Corn Fresh

	Average	% Treated with endosulfan
US Production (MT)	2,429,420	< 1
Imports (MT)	42,251	-
US Exports (MT)	82,872	-
Available In US (MT)	2,388,799	-
% Available In US From Imports	2	-

Sweet Corn Frozen

	Average	% Treated with endosulfan
US Production	NA	< 1

(MT)		
Imports (MT)	NA	-
US Exports (MT)	73,550	-
Available In US (MT)	NA	-
% Available In US From Imports	4	-

To: Sherrie Kinard

From: David Donaldson

Subject: Percent of U.S. consumption of 14 selected crops from imports

Date: September 15, 2000

This memo is in response to your request for approximations of the percent of U.S. consumption that comes from imports for 14 selected crops: dried beans, blueberries, cauliflower, cherries, sweet corn, cucumbers, honeydew melons, succulent peas, peppers, pineapples, plums, raspberries, summer squash, and watermelons. As was discussed, because data sources are limited, adjustments were made in the way that the requested information was reported. For example, the melon category includes cantaloupe melons, honeydew melons, and watermelons. In addition, information for 4 crops (cherries, succulent peas, plums, and summer squash) are not available.

The figures for sweet corn (frozen), cucumbers (fresh), melons (all), and peppers (green) were taken directly from the USDA Foreign Agricultural Trade of the United States (FATUS) U.S. Agricultural Trade Update from August 24, 1999. For crops not covered in the FATUS report, data by crop on imports and exports (all countries) was taken from both the Vegetables and Fruits and Nuts Yearbooks covering 1999 and 1998, respectively. U.S. production was taken from USDA Vegetables 1999 summary and Noncitrus Fruits and Nuts 1999 Summary. Percent of US consumption from imports for the remaining selected crops was then calculated by taking total imports as a percent of the sum of U.S. utilized production and imports minus exports (total production was used in place of utilized production when utilized production was not available).

The results are outlined in Table 1. In addition, Table 2 includes 1997 data for other commodities covered by the FATUS report that you might find useful.

Table 1--Import Share of US Food Consumption

Commodity	Import Share of US Consumption (percent)
Beans (dried) /1	4.0
Blueberries (fresh) /2	21.9
Cauliflower (fresh) /1	4.1
Cherries /4	-
Cucumbers (fresh) /3	39.5
Melons (all) /3	22.0
Peas (succulent) /4	-
Peppers (green) /3	20.4
Pineapple (fresh) /2	77.4
Plums /4	-
Raspberries (fresh) /2	44.7
Summer squash /4	-
Sweet corn (frozen) /3	3.6
Sweet corn (fresh) /1	1.0

1/ Ten year average share of consumption from imports from 1990 to 1999. Source--USDA 2000 Vegetable Yearbook (Stock #89011B) and USDA Vegetables 1999 Summary, January 2000. 2/ Share of consumption from imports for 1998. Source--USDA 1998 Fruits and Nuts Yearbook, November, 1999 (Stock #89022B) and USDA Noncitrus Fruit and Nuts 1999 Summary, July 2000. 3/ Import share of U.S. food consumption for 1997. Source--USDA/ERS U.S. Agricultural Trade Update, August 24, 1999 (see Table 2). 4/ Available EPA data sources covering this commodity group are either incomplete or unreliable.

Table 2–1997 Import Share of U.S. Food Consumption /1

Commodity	Import Share of US Consumption (percent)
Red meat	7.1
Beef	9.2
Pork	3.8
Lamb	24.9
Poultry meat	0.1
Fish and shellfish	62.1
Fresh and frozen	74.3
Canned	33
Dairy products	1.9
Cheese	4.1
Fats and oils	1
Salad & cooking oils	12.4
Fruits--fresh	34
Citrus	7
Oranges	1.7
Non-citrus	40.8
Apples	7.2
Grapes	41.2
Melons	22
Fruits--canning	18.8
Fruit juices	27.7
Citrus	16.2
Orange juice	17.6
Non-citrus	55.2
Apple	59.4
Grape	43.4
Fresh Vegetables	10.3
Carrots	6.7
Cucumbers	39.5
Onions	12
Green Peppers	20.4
Potatoes	6
Tomatoes	32.2
Vegetables for canning	5.6

Tomatoes	3.6
Vegetables for freezing	11.3
Sweet corn	3.6
Potatoes	8.8
Nuts	21.8
Tree nuts	62.3
Peanuts	3.8
Pulses	6.3
Spices and herbs	86.1
Wheat	10.4
Wheat flour	2.3
Rice	13.5
Corn	1
Cane and beet sugar	27.9
Honey	33.8
Edible syrups	66.9

1/ Source—USDA/ERS U.S. Agricultural Trade Update, August 24, 1999.